Simple Expense Tracker

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Table of Content

Introduction

1.1 Purpose

The purpose of this project is to develop a **Simple Expense Tracker** that allows users to record income and expenses, calculate total balance, and visualize spending patterns.

1.2 Scope

This system will enable users to:

- **Add transactions (income/expenses)**
- **View total balance**
- **See expense distribution in a chart**
- **Filter transactions by category or date (Optional)**

1.3 Intended Audience and Users

- **Individuals** who need a simple tool to manage personal finances.
- **Students** who want to track daily spending.

1.4 Assumption and Dependencies

- The application assumes users have basic knowledge of managing personal finances.
- The system relies on a stable database to store transactions.
- Users will access the system via a web or mobile interface.
- The system depends on external libraries for charts and data visualization (if applicable)

Overall Description

2.1 Product Perspective

- The Simple Expense Tracker is a standalone application designed for individual use.
- It is a lightweight financial tracking tool with essential features for managing expenses.
- The system can be extended with additional features such as multi-user support or cloud storage in the future.

2.2 User Characteristics

- Users may have minimal technical expertise.
- The target audience includes students, freelancers, and individuals looking for a basic financial management tool.
- Users may access the system on mobile or desktop.

2.3 Constraints

- The application should be lightweight and not consume excessive system resources.
- Users should be able to use the system without an internet connection (if offline mode is supported).
- The system should store transaction history securely.
- The interface should be user-friendly and simple to navigate

Functional Requirements

- Users should be able to add income and expense transactions.
- The system should calculate and display the total balance.
- Users should be able to categorize expenses (e.g., food, transport, entertainment).
- A simple dashboard should show an overview of income vs. expenses.

- Users should be able to delete or edit transactions.
- A search or filter function should be available to find specific transactions.
- A graphical representation (chart) of spending patterns should be available.

Non-Functional Requirements

- The application should have a simple and intuitive UI.
- Data should be stored securely and protected against unauthorized access.
- The system should respond quickly to user actions.
- It should be designed to run efficiently on both mobile and desktop devices.
- The application should be scalable for potential future enhancements.

External Interface Requirements

- **User Interface:**
  - Simple and clear interface with buttons for adding transactions, viewing balance, and accessing charts.
  - Responsive design for different screen sizes.
- **Hardware Requirements:**
  - Should run on any device with a basic web browser or mobile app environment.
- **Software Requirements:**
  - The system may use Java Spring Boot for the backend.
  - A database such as MySQL or SQLite to store user data.
  - Frontend may use HTML, CSS, JavaScript .

System Features

- **Transaction Management:** Users can add/edit/delete transactions.
- **Balance Calculation:** The system calculates total income, expenses, and remaining balance.
- **Expense Categorization:** Transactions can be labeled with different categories.
- **Charts & Reports:** Visual representation of spending habits.
- **Filters:** Users can filter transactions by date or category.
- **Data Security:** User data is stored securely.

Appendix

- Glossary:
    - **Transaction:** A record of income or expense.
    - **Balance:** The difference between total income and total expenses.
    - **Category:** A classification for expenses (e.g., food, transport).
- References:
    - Personal finance management best practices
    - Software development guidelines for Java applications